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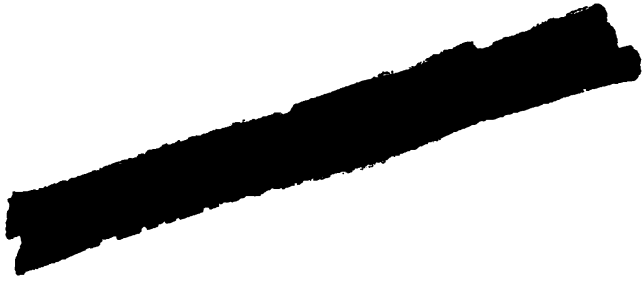
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Special Publication 1

INDEX

TO THE

LITERATURE

OF

AMERICAN ECONOMIC ENTOMOLOGY

January 1, 1905 to December 31, 1914

Compiled by

NATHAN BANKS



AMERICAN ASSOCIATION OF ECONOMIC ENTOMOLOGISTS
MELROSE HIGHLANDS, MASS.
1917

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INTRODUCTORY

The great need of bringing the Bibliography of American Economic Entomology down to date was considered at the Cleveland meeting in 1913. A special committee was appointed and drafted resolutions urging the Secretary of Agriculture to continue this exceedingly useful publication. As this proved impracticable, the President appointed a special committee consisting of W. E. Britton, E. P. Felt and J. J. Davis to formulate and submit a plan the following December. This was done; the plan duly accepted and the following were then appointed to have charge of the work: Messrs. E. P. Felt, W. E. Britton, W. E. Hinds, W. C. O'Kane and A. F. Burgess, a committee which continued in charge until the completed index was put into the hands of the Editorial Board of the *Journal of Economic Entomology*. The committee arranged with Dr. L. O. Howard, Chief of the Federal Bureau of Entomology, for the compilation of the Index, submitted progress reports in December 1914 and 1915 and after exhausting every reasonable possibility of securing the publication of the work through a government agency, prepared a third report which was favorably acted upon in December 1916, authorizing its publication by the Journal Board. It is perhaps unnecessary to add that much of the success of the work, projected as it is along new lines, is due to the untiring patience and devotion of the compiler, Dr. Nathan Banks, then connected with the United States Bureau of Entomology.

E. P. Felt,
W. E. Britton,
W. E. Hinds,
W. C. O'Kane,
A. F. Burgess,
Committee.

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INDEX TO THE LITERATURE OF AMERICAN ECONOMIC ENTOMOLOGY

JANUARY 1, 1905, TO DECEMBER 31, 1914

By NATHAN BANKS

The following Index to the literature of American Economic Entomology for the ten-year period from January 1, 1905 to December 31, 1914, is a continuation of the Bibliography of Economic Entomology. It has been recognized for some time that an Index on the following plan would contain all that was most useful in the Bibliography and besides would furnish the page references, and be more readily usable and occupy less space than the Bibliography. The insects and other headings are arranged alphabetically; under each are placed the references by author alphabetically. The several articles by one author are arranged chronologically. Unsigned articles are placed after the other references.

The amount of entomological literature has increased enormously in the last ten years, more especially in the agricultural press. Much of this is but a reprint of Station and Federal bulletins; and when plainly so has not been indexed. It is, however, impracticable to examine each article thoroughly to see whether it contains new matter, so doubtless various references may duplicate others, and on the other hand it is probable that some references have been omitted that should have been included. It is also probable that various references have escaped notice of the compiler.

The references (following a recommendation of a committee of the American Association of Economic Entomologists) are rather more abbreviated than usual; but will be readily understood by entomologists, at least with the following explanations:

"B." means bulletin, "C.," circular, "R.," report, "P. B.," press bulletin. Publications of experiment stations are referred to simply by State and number of bulletin, circular or report, as "Fla. B. 42" means Bulletin 42 of the Florida Agricultural Experiment Station. In New York, the Cornell bulletins are referred to as "N. Y. C. B."; the Geneva Station bulletins as "N. Y. St. B." The bulletins of the Bureau of Entomology, United States Department of Agriculture are referred to as "U. S. B."; the yearbook articles as "U. S. Y. B."; the Farmers' Bulletins as "U. S. F. B."; the more recent bulletins of this Department as "U. S. D. A. B."; the Gipsy and Browntail Moth Reports are "G. & B.-T. R."

"Pr." is used for Proceedings, "Jr." or "J." for Journal. The words "State" and "Annual" are usually omitted in the references, although in a few cases "St." (State) is retained because of possible confusion. The first figure after the "B." or "R." indicates the number of the bulletin or report and the next figure the page; the year is usually added, for it is oftentimes a help.

The preparation of the Index has been greatly facilitated by the aid of two typewriters, Mrs. Harriet Bishop and particularly by Miss M. G. Champney, whose knowledge of entomology and of the methods of the Bureau has been of especial value during the entire time of preparation.

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LIST OF ABBREVIATIONS

The list of abbreviations given below is supplementary to the preceding explanations:

Agr. = Agriculture, Agriculturist
Agric. = Agriculturist, Agricultural
Am. or Amer. = American
Ann. = Annals, Annual
App. = Appendix
Archiv. = Archives
Assoc. = Association
B. = Bulletin
B. C. = British Columbia
Bd. = Board
Bien. = Biennial
Bio. or Biol. = Biological
Bost. = Boston
Br. = Branch
Bu. or Bur. = Bureau
Bull. = Bulletin
C. = Circular
C. when after N. Y. = Cornell
C. Gentl. = Country Gentleman
Calif. = California
Can. = Canada
Clem. = Clemson
Col. = Colmans
Coll. = College
Comm. = Commission
Confer. = Conference
Cong. = Congress
Contr. = Contribution
Conv. = Convention
Cran. or Cranb. = Cranberry
Cult. = Cultivator
Cut. or Cutan. = Cutaneous
D. A. = Department Agriculture
Dept. = Department
Dermat. = Dermatology
Destr. = Destructive
Dis. = Diseases
Dom. = Dominion
Ec. = Economic
Econ. = Economics
Educ. = Education
Eng. = Engineering
Ent. = Entomology, Entomologist
Exch. = Exchange
Exp. = Experimental
Exterm. = Extermination
Farm. = Farmer
Fed. = Federal
For. = Forestry
Fr. = Fruit
Fum. = Fumigation
Fung. = Fungicide
G. & B. T. = Gipsy and Brown Tail
Gard. = Gardening, Gardeners
Gaz. = Gazette
Gen. = General
Gentl. = Gentleman
Geog. = Geographic
Grow. = Grower
Hort. = Horticulture, Horticulturist
Hosp. = Hospital
Hyg. = Hygiene
Infect. = Infectious
Inform. = Information
Inj. = Injurious
Ins. = Insects, Insecticide
Insect. = Insecticide
Insp. = Inspection
Intern. = International
Interst. = Interstate
J., Jr. or Jour. = Journal
L. I. = Long Island
Lab. = Laboratory
Lumberm. = Lumberman
Mag. = Magazine
Man. = Manual
Med. = Medicine
Meet. = Meeting
Mem. = Memoir
Milit. = Military
Mill. = Miller
Mod. = Modern
Month. = Monthly
Mort. = Mortality
Mosq. = Mosquito
Mus. = Museum
N. Eng. = New England
N. Orl. = New Orleans
Nat. = Naturalist
Nat'l = National
Northw. = Northwestern
Not. = Notices

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Nurs. = Nursery
O. = Ohio
Off. = Office
Ont. = Ontario
Or. = Orange
Orch. = Orchard
Ott. = Ottawa
P. B. = Press Bulletin
Pac. = Pacific
Path. = Pathological
Plant. = Planter
Poly. = Polytechnic
Pom. = Pomological
Pom. with Ent. = Pomona
Pop. = Popular
Prai. = Prairie
Prevent. = Preventive
Prod. = Producers
Prog. = Progressive
Pub. = Public
Public. = Publication
Quar. or Quart. = Quarterly
R. = Report
Rec. = Record
Rev. = Review
Roy. = Royal
Rur. = Rural
S. = South
Sci. = Science
Sec'y. = Secretary
Serv. = Service
Sess. = Session
Soc. = Society
South. = Southern
Sp. = Special
St. = State
Sta. = Station
Statis. = Statistical
Stockm. = Stockman
Suppl. = Supplement
Suppr. = Suppression
Supt. = Superintendent
Surg. = Surgeon
S. W. = Southwestern
Syn. = Synopsis
Techn. = Technical
Tr. or Trans. = Transactions
Trop. = Tropical
Univ. = University
U. S. B. = Bulletin U. S. Bureau Entomology
U. S. C. = Circular U. S. Bureau Entomology
U. S. D. A. B. = Bulletin U. S. Dept. Agriculture
U. S. F. B. = U. S. Dept. Agric. Farmers Bulletin
U. S. B. An. I. = U. S. Bureau Animal Industry
U. S. Y. B. = Yearbook U. S. Dept. Agriculture
Veg. = Vegetation
Vet. or Veter. = Veterinary
West. = Western
Zoöl. = Zoölogy

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AMERICAN ECONOMIC ENTOMOLOGY
INDEX OF LITERATURE 1905–1914

By Nathan Banks

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Abbot's white-pine sawfly, *see* **Lophyrus abbotii**

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Ablerus clisiocampae
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Quaintance, U. S. C. 124, 10, 1910.
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Ablerus sp. on grape scale
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Acanthocephala femorata
Morrill, U. S. B. 86, 91, 1910.

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Felt, N. Y. St. Mus. Mem. 8, 662, 1906.

Acanthocoris musculus
Titus, Utah B. 110, 50, 1910.

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Felt, N. Y. St. Mus. Mem. 8, 473, 1906.

Acanthoscelides obtectus, *see* **Bruchus**

Acariasis
Stiles, Osler's Mod. Med., I, 626, 1907.

Acetylene
Britton, Conn. R. 8, 798, 1909.

Achaetoneura frenchi, *see* **Frontina**

Achatodes zeae
Forbes, Ill. Ent. R. 23, 83, 1905.
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Acholla multispinosa
Felt, N. Y. St. Mus. Mem. 8, 613, 1906.

Achorutes armatum
Popenoe, U. S. C. 155, 6, 1912.

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Herrick, Household Ins. 376, 1914.

Achrastenus griseus
U. S. Y. B., 1905, 632.

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Chittenden, Ins. Inj. Veg. 184, 1907.
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Carnes, Cal. Hort. Comm. Bien. R. 2, 194, 1907.

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Franklin, Mass. B. 115, 13, 1907.
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Smith, N. J. R., 1905, 563.
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Acmaeodera pulchella
Burke, U. S. Y. B., 1909, 406.

Acordulecera maura
Herrick & Harned, J. Ec. Ent. II, 293, 1909.

Acraspis erinacei
Felt, N. Y. St. Mus. Mem. 8, 627, 1906.

Acrobasis caryae
Britton, J. Ec. Ent. VI, 198, 1913.
Kirk, Conn. R. 12, 253, 1913.

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Acrobasis nebulella
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Actia pilipennis
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Adalia bipunctata
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Adalia humeralis
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Davidson, U. S. D. A. B. 100, 39, 1914.

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Young, Pr. Columbus Hort. Soc., '06, 76.

Adelges abieticolens
Smith, N. J. R. 378, 1909.

Adimonia cavicollis
——— U. S. Y. B., 1907, 547.

Adistemia watsoni
Webster, Pr. Ent. Soc. Wash. X, 3, 1908.

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Hyslop, U. S. B. 85, 128, 1910.

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Branigan, Cal. Hort. B. II, 7, 585, 1913.
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Adoxus vitis
Isaac, Cal. Cult. XXV, 30, 1905.
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Quayle, Pac. Rur. Press, LXXXIII, 607, 1912.
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Aegeria apiformis
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Burke, U. S. Y. B., 1909, 403.
Davis, Jr. Ec. Ent. III, 184, 1910.
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Brooks, W. Va. R. f., 1909–1910, 190.
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Washburn, Minn. R. 12, 131, 1908.
Aphaereta sp.
Chittenden, U S. B. 66, 96, 1909.
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Johannsen & Patch, Me. B. 195, 235, '11.
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Aphidencyrtus aphidiphagus
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Folsom, Ill. B. 134, 152, 1909.
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Herrick, J. Ec. Ent. IV, 222, 1911.
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Popenoe, U. S. C. 155, 2, 1912.
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Pierce, U. S. B. 100, 48, 1912.
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Aphis citri
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Aphis cookii
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Aphis forbesi
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Moore, Wis. R. 23, 236, 1906.
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Patch, Me. B. 202, 176, 1913.
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Chandler, Mo. B. 102, 270, 1912.
Chittenden, U. S. C. 80, 1, 1906.
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Cook, Cal. Hort. I, 2, 64, 1912.
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Gillette, Colo. R. 19, 142, 1906.
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Glynn, C. Gentl., 1906, 676.
Green, Nat'l Fr. Grow., July 1905, 10.
Green, Tex. B. 94, 17, 1907.
Headlee, Kans. Farm., Aug. 20, '08, 882.
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Moore, Minn. R. 15, 68, 1914.
Morrill, S. W. Stockm., Aug. 7, 1914, 8.
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Morrison, Ind. Ent. R. 5, 221, 1912.
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Pettit, Mich. B. 233, 180, 1906.
Price, Va. C. 7, 58, 1909.
Quayle, Cal. B. 214, 493, 1911.
Reed, Ga. Hort. Soc. f., 1914, 56.
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Sherman, Prog. Farm., Mar. 14, '05, 2.
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Aphis houghtonensis
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Davis, Ill. Ent. R. 27, 120, 1912.
Dean, Kans. Agr. Educ. I, 4, 6, 1909.
Felt, N. Y. R. 25, 78, 86, 1910.
Forbes, U. S. B. 60, 29, 1906.
Forbes, Or. Judd. Farm., Apr. 6, '07, 470.
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Pettit, Mich. B. 233, 204, 1906.
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Thomas, S. C. B. 175, 1914.
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Vickery, U. S. B. 85, 97, 1910.
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——— Nebr. Bd. Agr. R. f., 1908, 317.
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Aphis maidis

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Howard, U. S. R. Ent., 1911, 26.
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Patch, Me. B. 202, 173, 1913.
Pettit, Mich. B. 233, 206, 1906.
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Swenk, Nebr. Ent. B. 1, 78, 1913.
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Gillette, Better Fr. Feb. 1910, 30.
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Hitchings, Mc. Ent. R. 5, 7, 1910.
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Moore, Wis. R. 23, 234, 1906.
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Murtfeldt, J. Ec. Ent. II, 219, 1909.
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Apple leaf-hopper, *see* **Empoasca mali**

Apple leaf roller, *see* **Acleris**

Apple leaf-miner, *see* **Tischeria malifoliella**

Apple leaf-sewer, *see* **Ancylis nubeculana**

Apple-leaf skeletonizer, *see* **Canarsia hammondi**

Apple leaf trumpet miner, *see* **Tischeria malifoliella**

Apple maggot, *see* **Rhagoletis pomonella**

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Apple red bug, *see* **Heterocordylus malinus** and **Lygidea mendax**

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Apple-tree tent-caterpillar, *see* **Malacosoma americana**

Apple twig-beetle, *see* **Stephanoderes hispidulus**

Apple twig-borer, *see* **Amphicerus bicaudatus**

Apple worm, *see* **Carpocapsa pomonella**

Apricot leaf-weevil, *see* **Paratochus sellatus**

Apricot scale, *see* **Eulecanium armeniacum**

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Morrison, Ind. Ent. R. 6, 75, 1914.

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California parsley caterpillar, *see* **Papilio zolicaon**
California peach-tree borer, *see* **Sanninoidea opalescens**
California pear sawfly, *see* **Gymnonychus californicus**
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Gossard, Ohio B. 198, 58, 1908.
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Carnes, Cal. Hort. Comm. Bien. R. 2, 191, 1907.

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Felt, N. Y. R. 21, 101, 1906.
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Flat-headed hickory borer, *see* **Dicerca obscura**

Flat-headed pine bark-borer, *see* **Chrysobothris dentipes**

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Grapevine flea-beetle, *see* **Haltica chalybea**
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Isotoma sp.
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Itoplectis, *see* **Pimpla**

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Hadwen, Pr. Ent. Soc. B. C., 1, 37, '11.

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Hooker, Bishopp & Wood, U. S. B. 106, 82, 1912.
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Cary, Ala. Poly. B. 141, 143, 1907.
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Davis, U. S. F. B. 543, 8, 1913.
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Britton, Conn. R. 12, 289, 1913.
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Forbes, Ill. B. 116, 451, 1907.
Lachnosterna hirticula
Britton, Conn. R. 12, 289, 1913.
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Garman, Ky. B. 120, 76, 1905.
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Forbes, Ill. B. 116, 451, 1907.
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Forbes, Ill. Ent. R. 23, 184, 1905.
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Britton, Conn. R. 12, 289, 1913.
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Rur. N. Y., 1905, 775.
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Conradi, Tex. B. 89, 13, 1907.
Smith, N. C. B. 197, 53, 1908.

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Cotton, Ohio Nurs. Orch. Insp. B. 7, 55, 1906.

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Dean, Kans. Agr. Educ. I, 4, 8, 1909.
Pettit, Mich. B. 233, 204, 1906.
Stedman, Mo. Bd. Agr. R. 38, 263, '06.

Lachnosterna sp. on strawberries
Clement, Ont. Dept. Agr. Fr. B. 210, 17, 1913.
Moore, Wis. B. 190, 32, 1910.
Price, Va. C. 7, 50, 1909.

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Felt, N. Y. R., 1906, 93.
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Felt, N. Y. R. 28, 1913, 56
Garcia, N. Mex. B. 68, 36, 1908.
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Haseman, Mo. Bd. Agr. R. 44, 268, 1912.
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Hine, O. Farm., Oct. 6, 1906, 239.
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Patch, Me. B. 202, 161, 1913.

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Lachnus larifex
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Lachnus pini
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Whitmarsh, Ohio B. 253, 145, 1912.
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Cotton, Ohio Nurs. Orch. Insp. B. 7, 34, 1906.
Dickerson, U. S. B. 67, 49, 1907.
Gossard, Fla. B. 79, 314, 1905.
Johnson, Colo. B. 116, 10, 1906.
Sanders, U. S. C. 64, 4, 1905.
Smith, N. J. R., 1905, 599.
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Felt, N. Y. St. Mus. Mem. 8, 529, 1906.
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Slingerland, Rur. N. Y., 1905, 742.
Languria mozardi
Folsom, Ill. B. 134, 178, 1909.
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Garman, Ky. B. 125, 48, 1906.
Gossard, Ohio B. 233, 82, 1911.
O'Kane, Inj. Ins. 127, 1914.
Pettit, Mich. B. 258, 280, 1910.
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Felt, N. Y. St. Mus. Mem. 8, 679, 1906.
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Ball, Deseret Farm., June 23, 1906, 1.
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Cooley, Mont. R. 12, 265, 1906.
Essig, Cal. Hort. B. II, 1-2, 162, 1913.
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Sherman, N. C. Dept. Agr. B. 35, 5, 38, 1914.
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Lesser migratory grasshopper, *see* **Melanoplus atlanis**

Lesser peach-borer, *see* **Synanthedon pictipes**

Lesser pine-borer, *see* **Asemum moestum**

Lesser prionus, *see* **Orthosoma brunneum**

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Peach soft scale, *see* **Eulecanium persicae**
Peach-tree bark-beetle, *see* **Phloeotribus liminaris**
Peach tree borer, *see* **Sanninoidea exitiosa**
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Pettit, Mich. B. 258, 286, 1910.

Phlepsius irroratus
Forbes, Ill. Ent. R. 23, 205, 1905.
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Phloeopthorus, *see* **Phloeotribus**

Phloeosinus dentatus
Britton, Conn. R. 10, 708, 1911.
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Felt, N. Y. St. Mus. Mem. 8, 493, 1906.

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Felt, N. Y. R. 26, 49, 1911.
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Pettit, Mich. B. 244, 209, 1907.
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Haseman, Mo. B. 104, 324, 1912.

Phobetron pithecium
Felt, N. Y. St. Mus. Mem. 8, 528, 1906.
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Johannsen & Patch, Me. B. 195, 241, 1911.

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Cockerell, Ariz. B. 56, 191, 1907.
Cook, Cal. Hort. B. III, 10, 440, 1914.
Essig, Cal. Hort. B. II, 1-2, 94, 1913.
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Pholus achemon
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Douglass, Ind. Ent. R. 2, 45, 1910.
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Smith, N. J. R., 1908, 339.

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Phorbia ceparum, *see* **P. cepetorum**

Phorbia cepetorum
Ames, N. Eng. Farm., July 17, 1909, 9.
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Barre & Conradi, S. C. B., 141, 40, 1909.
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Davis, Ill. Ent. R. 26, 133, 1911.
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Price, Va. C. 7, 62, 1909.
Russell, Wis. B. 240, 44, 1914.
Sanborn, Okla. B. 100, 39, 1912.
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Johannsen, Me. B. 187, 6, 1911.

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Phormia regina
Felt, N. Y. R. 28, 75, 1913.
Johannsen, Me. B. 187, 6, 1911.

Phormia terraenovae
Howard, U. S. C. 71, 2, 1906.
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Phorocera comstocki
Hunter, Pratt & Mitchell, U. S. B. 113, 27, 1912.

Phorocera erecta
Chittenden, U. S. B. 109, 21, 1911.

Phorocera leucaniae
Garman, Ky. B. 137, 436, 1908.
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Tothill, Ont. Ent. Soc. R. 43, 58, 1913.

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Howard & Fiske, U. S. B. 91, 145, 1911.
Hyslop, U. S. B. 95, 117, 1912.

Phorocera tortricis
Herrick, N. Y. C. B. 311, 291, 1912.

Phorodon humuli
Bremner, Cal. Hort. Comm. Destr. Ins. 24, 1910.
Clarke, Oreg. Bd. Hort. 8th Bien, R. 285, 1905.
Cooper, Cal. Hort. Comm. Ins. & Insect., 1905, 11.
Essig, Cal. Hort. B. II, 1–2, 84, 1913.
Felt, N. Y. R. 25, 77, 1910.
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Photuris pennsylvanica
Brooks, W. Va. B. 107, 28, 1907.

Phoxopteris comptana, *see* Ancylis

Phoxopteris fragariae
Gossard, Ohio B. 233, 148, 1911.

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Phryganidia californica
Doane, J. Ec. Ent. V, 346, 1912.
Ehrhorn, Cal. Hort. Comm. Bien. R. 2, 227, 1907.
Smith, Cal. Hort. B. II, 7, 590, 1913.
Woodworth, Cal. C. 18, 1906.
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Phthirius inguinalis
Dietz, Ind. Ent. R. 5, 188, 1912.
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Whitmarsh, Ohio B. 253, 131, 1912.

Phthorimaea operculella
Chittenden, Ins. Inj. Veg., 224, 1907.
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Essig, Cal. Hort. B. II, 1–2, 166, 1913.
Hooker, U. S. B. 67, 110, 1907.
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Lovett, Oreg. Coll. B. 91, 13, 1913.
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Morgan & Crumb, U. S. D. A. B. 59, 1 1914.
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Phthorimaea operculella—*Quarantine*
Cook, S. W. Stockm., Apr. 3, 1914, 10.

Phycis indiginella, *see* Mineola

Phygadeuon brevis
Quaintance, U. S. Y. B., 1907, 443.

Phygadeuon neodiprioni
Swenk, Nebr. R. 24, 29, 1911.

Phygadeuon n. sp. on Diprion
Swenk, Nebr. R. 24, 29, 1911.

Phygadeuon patulus
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Phygadeuon sp. on alfalfa weevil
Webster, U. S. B. 112, 38, 1912.

Phylethus bifasciatus
Swenk, Nebr. Ent. B. 1, 104, 1913.

Phyllaphis fagi
Felt, N. Y. St. Mus. Mem. 8, 601, 1906.
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Felt, N. Y. R. 25, 80, 1910.

Phyllobaenus dislocatus
Felt, N. Y. St. Mus. Mem. 8, 503, 1906.

Phyllocnistis citrella
Marlatt, U. S. Fed. Hort. Bd. R. 8, '14.

Phyllocnistis vitigenella
Stewart, N. Y. St. B. 328, 351, 1910.

Phyllocoptes aceris-crumena
Parrott, J. Ec. Ent. I, 312, 1908.

Phyllocoptes schlechtendali
Brittain, Pr. Ent. Soc. B. C., 4, 18, 1914.
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Phyllocoptes sp.
Moore, Wis. B. 190, 24, 1910.

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Phylloscelis atra
Jordan, N. Y., St. B. 393, 650, 1914.
Sirrine & Fulton, N. Y. St. B. 377, 91, 1914.
Slingerland & Crosby, Man. Fr. Ins. 472, 1914.

Phyllotreta armoraciae
Davis, J. Ec. Ent. III, 181, 1910.
Gibson, Can. Exp. Farms Ent. C. 2, 10, 1913.
Gibson, Ont. Ent. Soc. R. 43, 13, 1913.
Winn, Ont. Ent. Soc. R. 41, 59, 1911.
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Phyllotreta pusilla
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Sanderson, Ins. Pests, 375, 1912.
——— U. S. Y. B., 1908, 572.

Phyllotreta sinuata
Duporte, Can. Ent., 1914, 433.
Sanderson, Ins. Pests, 375, 1912.

Phyllotreta vittata
Bethune, Ont. Agr. Coll. B. 171, 36, '09.
Chittenden, Ins. Inj. Veg., 146, 1907.
Davis, Ill. Ent. R. 26, 113, 1911.
Fletcher, Can. Exp. Farms B. 52, 42, '05.
Fletcher, Ont. Ent. Soc. R. 36, 86, 1906.
Gibson, Ont. Ent. Soc. R. 39, 116, 1909.
Gibson, Ont. Ent. Soc. R. 41, 12, 1911.
Gibson, Can. Exp. Farms Ent. C. 2, 9, 1913.
Gibson, Ont. Ent. Soc. R. 43, 13, 1913.
Lochhead, Syn. Ec. Ent. 76, 1914.
Lochhead & Jarvis, Ont. Agr. Coll. B. 150, 31, 1906.
O'Kane, Inj. Ins. 158, 1914.
Patch, Me. B. 123, 217, 1905.
Pettit, Mich. B. 233, 172, 1906.
Sanborn, Okla. B. 100, 56, 1912.
Sanderson, Ins. Pests, 375, 1912.
Schoene, N. Y. St. B. 334, 15, 1911.
Smith, N. C. R. 33, 32, 1910.
——— U. S. Y. B., 1906, 511.
——— U. S. Y. B., 1908, 571.

Phylloxera caryaecaulis
Felt, N. Y. St. Mus. Mem. 8, 331, 1905.
Felt, N. Y. R. 21, 99, 1906.
Felt, N. Y. R. 25, 82, 1910.
Herrick & Harned, J. Ec. Ent. II, 295, 1909.
Tucker, La. Crop Pest Notice 2, 1914.
Weiss, N. J. R., 1912, 428.
——— U. S. Y. B., 1908. 579.

Phylloxera foveola
Felt, N. Y. St. Mus. Mem. 8, 629, '06.

Phylloxera notabilis
Chittenden, Nut Grow., Sept. 1905, 19.
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——— U. S. Y. B., 1905, 636.
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Phylloxera perniciosa
Chittenden, Nut Grow., May '09, 4.
Tucker, La. Crop Pest Notice 2, 1914.
——— U. S. Y. B., 1908, 579.

Phylloxera vastatrix
Aldrich, Idaho B. 46, 3, 1905.
Barre & Conradi, S. C. B. 141, 36, 1909.
Bethune, Ont. Agr. Coll. B. 158, 32, '07.
Bioletti, Cal. Cult., XXV, 508, 1905.
Bremner, Cal. Hort. Comm. Bien. R. 1, 338, 1905.
Bremner, Cal. Hort. Comm. Destr. Ins., 1910, 27.
Cook, N. J. C. 34, 8.
Cook, N. J. C. 35, 7.
Dean & Peairs, Kans. Agr. Educ. VI, 2, 88, 1913.
Douglass, Ind. Ent. R. 3, 200, 1910.
Dwinelle, Pac. Rur. Press, LXX, 308, 1905.
Ehrhorn, Cal. Hort. Comm. Bien. R. 1, 110, 1905.
Essig, Cal. Hort. B. II, 1–2, 47, 1913.
Gossard, Ohio B. 233, 133, 1911.
Howard, U. S. R. Ent., 1912, 24.
Lochhead, Syn. Ec. Ent. 46, 1914.
Morrill, J. Ec. Ent. VI, 190, 1913.
O'Kane, Inj. Ins. 227, 1914.
Sanderson, Ins. Pests, 493, 1912.
Slingerland & Crosby, Man. Fr. Ins. 455, 1914.
Surface, Pa. D. A. Zoöl. I, 1, 35, 1911.
Symons, Md. B. 101, 152, 1905.
Tucker, La. Crop Pest Notice 2, 1914.
Washburn, Minn. R. 12, 141, 1908.
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Phylloxera vastatrix—*Quarantine*
Cal. Hort. B. I, 13, 952, 1912.

Phylloxera vitifoliae, *see* **P. vastatrix**

Phymatodes dimidiatus
Felt, N. Y. St. Mus. Mem. 8, 669, '06.

Phymatodes variabilis
Felt, N. Y. St. Mus. Mem. 8, 433, '06.

Physcus sp. on grape scale
Zimmer, U. S. B. 97, 119, 1912.

Physcus varicornis
Marlatt, U. S. B. 62, 60, 1906.
Quaintance, U. S. C. 124, 10, 1910.
Smith, Nebr. Hort. Soc. B. 20, 10, 1908.
Surface, Pa. D. A. Zoöl. V, 2, 58, 1907.
Zimmer, U. S. B. 97, 119, 1912.

Physocnemum brevilineum
Felt, N. Y. St. Mus. Mem. 8, 462, 1906.

Physokermes insignicola
Carnes, Cal. Hort. Comm. Bien. R. 2, 195, 1907.

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Physostegania pustularia
Hardenberg, Wis. B. 159, 18, 1908.
Phytocoris eximius
Felt, N. Y. St. Mus. Mem. 8, 685, 1906.
Phytodecta pallida
Felt, N. Y. St. Mus. Mem. 8, 558, 1906.
Phytodietus vulgaris
Herrick, N. Y. C. B. 311, 286, 1912.
Phytomyza chrysanthemi
Britton, Conn. R. 11, 342, 1912.
Fernald, Mass. R. 23, I, 78, 1911.
Fernald, Mass. R. 26, I, 55a, 1914.
Sanders, J. Ec. Ent. V, 472, 1912.
Smulyan, Mass. B. 157, 21, 1914.
Treherne, Pr. Ent. Soc. B. C., 4, 30, '14.
Phytomyza lateralis
Cooley, Mont. B. 92, 60, 1912.
Phytonomus meles
Felt, N. Y. R. 27, 98, 1912.
Felt, J. Ec. Ent. VI, 283, 1913.
Smith, N. J. R. 426, 1911.
Titus, Ann. Ent. Soc. Am. IV, 435, '11.
Titus, Psyche, 1911, 74.
Phytonomus murinus, *see* **P. posticus**
Phytonomus nigrirostris
Fletcher, Can. Exp. Farms B. 52, 29, '05.
Fletcher, Ont. Ent. Soc. R. 36, 84, 1906.
Gibson, Ont. Ent. Soc. R. 41, 12, 1911.
Houghton, J. Ec. Ent. I, 297, 1908.
O'Kane, Inj. Ins. 166, 1914.
Titus, Ann. Ent. Soc. Am. IV, 442, '11.
Webster, U. S. B. 85, 1, 1911.
——— U. S. Y. B., 1908, 569.
Phytonomus posticus
Ball, Deseret Farm., May 21, 1910, 3.
Ball, S. W. Stockm., Aug. 12, 1910, 1.
Ball, Deseret Farm., Mar. 25, 1911, 7.
Cook, Pom. Jr. Ent. III, 576, 1911.
Cook, Cal. Hort. B. I, 1, 19, 1911.
Cook, Cal. Cult., XXXIX, 224, 1912.
Cook, Cal. Cult., XLII, 633, 1914.
Cooley, Mont. B. 88, 88, 1912.
Cooley, Mont. B. 92, 61, 1912.
Cooley, Mont. C. 35, 191, 1914.
Dean, Kans. Farm., Mar. 22, 1913, 6.
Doten, Nev. B. 73½, 45, 1910.
Doten, Nev. R. f. 1911, 36.
Doten, Nev. R. f. 1912, 37.
Gillette, S. W. Stockm., Aug. 26, '10, 1.
Howard, U. S. R. Ent., 1910, 27.
Howard, U. S. R. Ent., 1911, 25.
Howard, U. S. R. Ent., 1912, 11, 27.
Howard, U. S. R. Ent., 1913, 6.
Howard, U. S. R. Ent., 1914, 9.
Kalmbach, U. S. D. A. B. 107, 1, 1914.
Jardine & Call. Kans. B. 197, 608, 1914.
Merrill, Cal. Hort. B. I, 10, 765, 1912.
Morrill, S. W. Stockm., Mar. 17, '11, 1.
Morrill, S. W. Stockm., June 6, '13, 10.
O'Kane, Inj. Ins. 162, 1914.
Parks, Idaho Exten. B. 7, 3, 1913.
Parks, J. Ec. Ent., VII, 417, 1914.
Sanderson, Ins. Pests, 205, 1912.
Titus, Deseret Farm., Sept. 26, 1908, 3.
Titus, Deseret Farm., Oct. 3, 1908, 11.
Titus, Deseret Farm., July 10, 1909, 10.
Titus, J. Ec. Ent. II, 149, 1909.
Titus, J. Ec. Ent. III, 459, 1910.
Titus, Utah B. 110, 19, 1910.
Titus, Ann. Ent. Soc. Am. IV, 452, 1911.
Titus, Deseret Farm., May 18, 1912, 762.
Titus, Utah Farm., Sept. 21, 1912, 136.
Titus, Utah C. 10, 1913.
Titus, Utah Farm., Apr. 26, 1913, 631.
Titus, Utah Farm., Feb. 14, 1914, 466.
Webb, Utah Farm., Aug. 3, 1912, 938.
Webb, Utah Farm., Aug. 23, 1913, 61.
Webster, Cal. Cult., XXXVII, 75, 1911.
Webster, S. W. Stockm., Apr. 28, '11, 1.
Webster, C. Gentl., Dec. 28, 1912, 7.
Webster, U. S. B. 112, 9, 1912.
Westgate, McKee & Evans, U. S. F. B. 495, 31, 1912.
——— Cal. Hort. Comm. Bien. R. 6, 12, 1914.
——— Deseret Farm., Apr. 13, '12, 687.
——— S. W. Stockm., May 28, 1909, 11.
——— S. W. Stockm., Mar. 1, 1912, 10.
——— U. S. Y. B., 1908, 569.
Phytonomus posticus—*Quarantine*
Cook, Cal. Hort. B. I, 10, 796, 1912.
Cook, Cal. Hort. Comm. Bien. R. 5, 13, 1912.
Morrill, Cal. Hort. B. I, 13, 952, 1912.
Parks, Idaho Ext. B. 7, 20, 1913.
——— Cal. Hort. B. I, 12, 924, 1912.
Phytonomus punctatus
Britton, Conn. R. 13, 255, 1914.
Fletcher, Can. Exp. Farms B. 52, 28, 1905.
Fletcher, Ont. Ent. Soc. R. 36, 84, 1906.
Folsom, Ill. B. 134, 155, 1909.
Folsom, Ill. Ent. R. 25, 83, 1909.
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Scymnus marginicollis
Schwarz, U. S. B. 54, 75, 1905.
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Silver mite, *see* **Eriophyes oleivorus**

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Siphonophora spp *see* **Macrosiphum**
Sitka spruce beetle, *see* **Dendroctonus obesus**
Sitka spruce hylurgops, *see* **Hylurgops rugipennis**
Sitodrepa panicea
Douglass, Ind. Ent. R. 2, 79, 1910.
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O'Kane, Inj. Ins. 167, 1914.
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Gossard, Ohio B. 233, 81, 1911.
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Slender seed-corn ground-beetle, *see* **Clivina impressifrons**

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Small-eyed flour-beetle, *see* **Palorus ratzburgi**
Small gray leaf-weevil, *see* **Thricolepsis inornata**
Small green rose aphis, *see* **Myzus rosarum**
Smaller corn stalk-borer, *see* **Elasmopalpus lignosellus**
Smeared dagger, *see* **Acronycta oblinita**
Smicraulax tuberculatus
Pierce, U. S. B. 100, 76, 1912.
Smicronyx tychoides
Pierce, U. S. B. 100, 75, 1912.
Smilia misella, *see* **Microweisia**
Smynthurus albamaculata
Patch, Me. B. 123, 220, 1905.
Patch, Me. B. 134, 225, 1906.
Patch, Me. B. 187, 24, 1911.
Smynthurus arvalis
Felt, N. Y. R. 27, 103, 1912.
Smynthurus sp.
Fink, J. Ec. Ent. VII, 400, 1914.
Snowy tree-cricket, *see* **Œcanthus niveus**
Soap solution
Sherman, N. C. Dept. Agr. B. June, 1909, 19.
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Harcourt & Fulmer, Ont. Agr. Coll. B. 154, 21, 1907.
Social grape caterpillar, *see* **Harrisina americana**
Soda wash
Doten, Nev. B. 66, 26, 1908.
Sodium cyanide
Essig, Pom. Jr. Ent. III, 385, 1911.
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Soft brown scale, *see* **Coccus hesperidum**
Soft scale, *see* **Coccus hesperidum**
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Fernald, Mass. R. 25, I, 90, 1913.
Soil fumigation
Hyslop, J. Ec. Ent. VII, 305, 1914.
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Brooks, W. Va. R. f. 1909–1910, 190.
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Solenopsis geminata
Hinds, U. S. B. 74, 24, 1907.
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Pierce, U. S. B. 100, 70, 1912.
Vickery, U. S. B. 85, 116, 1910.
Solenopsis geminata var. xyloni
Hinds, U. S. B. 63, 45, 1907.
Solenopsis molesta
Hunter & Pierce, U. S. B. 114, 140, 1912.
Pierce, U. S. B. 100, 70, 1912.
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Solenopsis tenuis
Buck, Va. R. f. 1908, 67.
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Sorghum midge, *see* **Contarinia sorghicola**
Southern buffalo gnat, *see* **Simulium pecuarum**
Southern cabbage butterfly, *see* **Pontia protodice**
Southern cabbage worm, *see* **Pontia protodice**
Southern corn root-worm, *see* **Diabrotica duodecempunctata**
Southern hornworm, *see* **Phlegethontius sexta**
Southern leaf-footed plant-bug, *see* **Leptoglossus phyllopus**
Southern pine beetle, *see* **Dendroctonus frontalis**
Southern pine sawyer, *see* **Monohammus titillator**
Southern tobacco worm, *see* **Phlegethontius sexta**
Southwestern pine beetle, *see* **Dendroctonus barberi**
Spalangia hirta
Marlatt, U. S. C. 115, 7, 1910.
Spalangia lanaiensis
Marlatt, U. S. C. 115, 7, 1910.
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Bishopp, J. Ec. Ent. VI, 124, 1913.
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Bishopp, U. S. F. B. 540, 23, 1913.
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Sparnopolius fulvus
Forbes, Ill. B. 116, 473, 1907.
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Spermophagus robiniae
Pierce, U. S. B. 100, 74, 1912.
Speckled cutworm, *see* **Mamestra subjuncta**
Sphaerophoria cylindrica
Chittenden, Va. Truck Exp. Sta. B. 2, 24, 1909.
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Sphaerophoria melanosa
Davidson, U. S. D. A. B. 100, 37, 1914.
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Sphecius nevadensis
Quaintance, U. S. Y. B., 1907, 443.
Sphecius speciosus
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Marlatt, U. S. B. 71, 132, 1907.
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Trypeta ludens, *see* **Anastrepha**
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Turkey gnat, *see* **Simulium meridionale**
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Twig-borer, *see* **Polycaon confertus**
Twig-girdler, *see* **Oncideres cingulata**
Twig-pruner, *see* **Elaphidion villosum**
Two-lined chestnut borer, *see* **Agrilus bilineatus**
Two-spotted ladybird, *see* **Adalia bipunctata**
Two-spotted mite, *see* **Tetranychus bimaculatus**
Two-striped grasshopper, *see* **Melanoplus bivittatus**
Two-striped leaf-beetle, *see* **Luperodes bivittatus**
Two-striped locust, *see* **Melanoplus bivittatus**
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Western cedar bark-beetle, *see* **Phloeosinus punctatus**
Western cedar bark-borer, *see* **Hylotrupes amethystinus**
Western corn root-worm, *see* **Diabrotica longicornis**
Western cricket, *see* **Anabrus simplex**

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Western five-spined tomicus, *see* **Tomicus confusus**
Western flea-beetle, *see* **Phyllotreta pusilla**
Western grain sawfly, *see* **Cephus occidentalis**
Western hemlock bark-borer, *see* **Melanophila drummondi**
Western hemlock wood-stainer, *see* **Gnathotrichus sulcatus**
Western kermes, *see* **Kermes occidentalis**
Western oak bark-beetle, *see* **Pityophthorus pubipennis**
Western pine beetle, *see* **Dendroctonus brevicomis**
Western pine hylurgops, *see* **Hylurgops subcostulatus**
Western potato flea-beetle, *see* **Epitrix subcrinita**
Western radish maggot, *see* **Phorbia planipalpis**
Western striped cucumber beetle, *see* **Diabrotica trivittata**
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Wheat-stem maggot, *see* **Meromyza americana**
Wheat straw-worm, *see* **Isosoma grande**
Wheat thrips, *see* **Thrips tritici**
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White-pine sawyer, *see* **Monohammus scutellatus**

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